

In rejecting claims 24, 25 and 33, the Examiner also cites *Krentz*, *Ichikawa* and *Bannerman* for the same reasons as those used in rejecting claim 15 and 17. It is respectfully submitted that *Krentz* does not disclose a signal processor located on the substrate adjacent to and electrically connected to the electrically conductive element for processing received broadcast signals in the 88MHz-108MHz range. *Bannerman* fails to disclose an FM antenna system that can be modified to fit inside the device body of a hand-held telecommunication device. The present invention is concerned with fitting inside a hand-held telecommunication device a small-sized antenna on a substrate for receiving broadcast signals and a signal processor on the same substrate for processing the received broadcast signals. With such an objective, there is no motivation for a person skilled in art to try to combine a reference that does not teach a signal processor for processing broadcast signals with a reference that does not teach an antenna smaller than a quarter-wavelength of the carrier waves. There is no motivation to combine the disclosures in *Krentz* and *Bannerman* with *Ichikawa* regardless what *Ichikawa* discloses.

For the above reasons, *Krentz* in view of *Ichikawa* and further in view of *Bannerman* fails to render the invention as claimed in claims 24, 25 and 33 obvious.

At section 3, claims 19-22, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Shigematsu* (EP 057612A2). In rejecting these claims, the Examiner cites *Shigematsu* for disclosing a band-tuning circuit.

It is respectfully submitted that claims 19-22, 35 and 36 are dependent from claim 15, 17 and 24, and recite features not recited in claims 15, 17 and 24. For reasons regarding claims 15, 17 and 24 above, *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Shigematsu* does not render claims 19-22, 35 and 36 obvious.

At section 4, claims 44 and 45 rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Casel* (WO 98/49742). In rejecting claims 44 and 45, the Examiner cites *Casel* for disclosing a small electrically non-conductive substrate.

Claims 44 and 45 are dependent from claims 15 and 17 and recite features not recited in claims 15 and 17. For reasons regarding claims 15 and 17 above, it is respectfully submitted that *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Casel* fails to render claims 44 and 45 obvious.

At section 5, claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Aurial* (U.S. Patent No. 5,134,422). In rejecting claim 48, the Examiner cites *Aurial* for disclosing a helical shape conductive element.

Claim 48 is dependent from claim 17 and recites features not recited in claim 17. For reasons regarding claim 17 above, it is respectfully submitted that *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Aurial* fails to render claim 48 obvious.

At section 6, claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Lahti* (U.S. Patent No. 6,028,567). In rejecting claim 48, the Examiner cites *Lahti* for disclosing a flexible substrate.

Claim 49 is dependent from claim 24 and recites features not recited in claim 24. For reasons regarding claim 24 above, it is respectfully submitted that *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Lahti* fails to render claim 49 obvious.

At section 7, claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and further in view of *Baker* (U.S. Patent No. 4,409,688). In rejecting claim 18, the Examiner cites *Baker* for disclosing that the digital broadcast signals in the frequency range of 200MHz.

Claim 18 claims: an integrated broadcast reception system for use in a hand-held telecommunication device for receiving broadcast signals, wherein the hand-held telecommunication device has a device body, the reception system comprising:

- (a) an electrically non-conductive substrate located inside the device body;
- (b) an electrically conductive element, disposed on the substrate, for receiving the broadcast signals; and

(c) a signal processing module disposed on the substrate adjacent and electronically connected to one end of the electrically conductive element, responsive to the received signals, for processing the received signals, wherein the broadcast signals are frequency-modulated signals, and wherein the broadcast signals are substantially in a frequency range of 200MHz.

As with the above analysis, *Krentz* does not disclose a signal processor located on the substrate adjacent to and electrically connected to the electrically conductive element for processing received broadcast signals. For that reason, *Krentz* is irrelevant to the present invention as claimed in claim 18. Regardless of what frequency range is disclosed in *Baker*, it is difficult to image why a person skill in art would have the motivation to combine *Baker* with an irrelevant reference such as *Krentz*.

For the above reason, it is respectfully submitted that *Krentz* in view of *Baker* fails to render claim 18 obvious.

At section 8, claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Ichikawa* and *Baker* and further in view of *Casel*.

Claim 46 is dependent from claim 18 and recites features not recited in claim 18. For reasons regarding claim 18 above, it is respectfully submitted that *Krentz* in view of *Ichikawa* and *Bannerman*, and further in view of *Casel* fails to render claim 46 obvious.

At section 9, claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Krentz* in view of *Baker*. In rejecting claim 27, the Examiner cites *Baker* for disclosing that the digital broadcast signals are in the frequency range of 200MHz.

Claim 27 claims a mobile phone having a reception system comprising:

- (a) an electrically non-conductive substrate located inside the device body;
- (b) an electrically conductive element, disposed on the substrate, for receiving the broadcast signals; and
- (c) a signal processing module disposed on the substrate adjacent and electronically connected to one end of the electrically conductive element, responsive to the received signals,

for processing the received signals, wherein the broadcast signals are frequency-modulated signals, and wherein the broadcast signals are substantially in a frequency range of 200MHz.

As with the above analysis, *Krentz* does not disclose a signal processor located on the substrate adjacent to and electrically connected to the electrically conductive element for processing received broadcast signals. For that reason, *Krentz* is irrelevant to the present invention as claimed in claim 27. Regardless of what frequency range is disclosed in *Baker*, it is difficult to image why a person skill in art would have the motivation to combine *Baker* with an irrelevant reference such as *Krentz*.

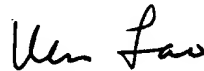
CONCLUSION

NO MOTIVATION FOR A PERSON SKILLED IN THE ART TO COMBINE *Krentz* WITH OTHER CITED REFERENCES BECAUSE *Krentz* IS IRRELEVANT TO THE CLAIMED INVENTION

Krentz is irrelevant to the present invention because it fails to disclose a signal processing module for processing broadcast signals. The signal processing module for processing broadcast signals is one of the claim elements of the claimed invention. In order to reject the pending claims, the Examiner must show each and every element in the invention as claimed. The Examiner fails to do so.

For the above reason, the 103 rejection of all pending claims must be withdrawn. Early allowance of claims 15, 17-22, 24, 25, 27, and 34-48 is earnestly solicited.

Respectfully submitted,



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